Date: Mon, 28 Feb 94 04:30:49 PST
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #42
To: Ham-Space

Ham-Space Digest Mon, 28 Feb 94 Volume 94 : Issue 42

Today's Topics:

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

Date: 27 Feb 94 06:44:44 GMT
From: news-mail-gateway@ucsd.edu
Subject: Need COSPAS/SARSAT System information.
To: ham-space@ucsd.edu

Hi!
   I'm developing an Emergency Beacon for Positioning and Rescue of ship and aircraft use, and I need some information about the COSPAS/SARSAT satellite system.

Basically, I want to know what information must be sent, how it has to be encoded on each of the three frequencies (121.5 MHz, 243 MHz and 406 MHz).

If you have ANY of this information (or part of it), please send it to me (or at least let me know) via the following paths:

Packet radio: lu7akc @ lu7akc.#col.cf.arg.soam
Internet: postmaster@asarin.org.ar

Thankyou in advance!

73's de Ed Sweet.

Date: 27 Feb 1994 04:54:47 GMT
From: solaris.cc.vt.edu!dogwood!bergst@uunet.uu.net
Subject: TO: Mr. Bill Freeman
To: ham-space@ucsd.edu

Mail to you system bounced. (could be our network)

Thank you for the information. It was very helpful.

Rob Bergstrom
Virginia Tech

Date: Sat, 26 Feb 1994 15:45:17 MST
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!math.ohio-state.edu!
cyber2.cyberstore.ca!nntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: Two-Line Orbital Element Set Format
To: ham-space@ucsd.edu

As a service to the satellite user community, the following description of the NORAD two-line orbital element set format is uploaded to sci.space.news and rec.radio.info on a monthly basis. The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) *253-9767*, and are updated daily (when possible). Documentation and tracking software are also available on this system. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity. In addition, element sets (also updated daily) and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

==========

Data for each satellite consists of three lines in the following format:

```
AAAAAAAAAA
1 NNNNNU NNNNNAAA NNNNN.NNNNNNNN +.NNNNNNNN +NNNNN-N +NNNNN-N N NNNNN
2 NNNNN NNN.NNNN NNN.NNNN NNNNNNN NNN.NNNN NNN.NNNN NN.NNNNNNNNNNNNN
```

Line 0 is a eleven-character name.

Lines 1 and 2 are the standard Two-Line Orbital Element Set Format identical to that used by NORAD and NASA. The format description is:

```
Line 1
Column     Description
 01-01     Line Number of Element Data
 03-07     Satellite Number
 10-11     International Designator (Last two digits of launch year)
 12-14     International Designator (Launch number of the year)
 15-17     International Designator (Piece of launch)
 19-20     Epoch Year (Last two digits of year)
 21-32     Epoch (Julian Day and fractional portion of the day)
 34-43     First Time Derivative of the Mean Motion
        or Ballistic Coefficient (Depending on ephemeris type)
 45-52     Second Time Derivative of Mean Motion (decimal point assumed;
           blank if N/A)
 54-61     BST
           Otherwise, radiation pressure coefficient.  (Decimal point assumed)
 63-63     Ephemeris type
 65-68     Element number
 69-69     Check Sum (Modulo 10)
           (Letters, blanks, periods, plus signs = 0; minus signs = 1)

Line 2
Column     Description
 01-01     Line Number of Element Data
 03-07     Satellite Number
 09-16     Inclination [Degrees]
 18-25     Right Ascension of the Ascending Node [Degrees]
 27-33     Eccentricity (decimal point assumed)
 35-42     Argument of Perigee [Degrees]
 44-51     Mean Anomaly [Degrees]
 53-63     Mean Motion [Revs per day]
 64-68     Revolution number at epoch [Revs]
 69-69     Check Sum (Modulo 10)

All other columns are blank or fixed.

Example:

NOAA 6
1 11416U          86 50.28438588 0.00000140           67960-4 0  5293
2 11416  98.5105  69.3305 0012788  63.2828 296.9658 14.24899292346978
--
Dr TS Kelso                           Assistant Professor of Space Operations
tkelso@afit.af.mil                    Air Force Institute of Technology

------------------------------

End of Ham-Space Digest V94 #42
```

****